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<150> PCT/EP98/03193

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<151> 1997-06-02

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ggctatgtgg atccttcggg aggagatcgc ttttgcttgg gtcaactctc caatgtccac 360

aggacagaag cgattgagag agcgaggttg cacataggca aaggagtgca gttggaatgt 420

aaaggtgaag gtgacgtttg ggtcaggtgc cttagtgacc acgcggtctt tgtacagagt 480

tactacctgg acagagaagc tggccgagca cctggcgacg ctgttcataa gatctaccca 540

agcgcgtata taaaggtctt tgatctgcgg cagtgtcacc ggcagatgca gcaacaggcg 600

gccactgcgc aagctgcagc tgctgctcag gcggcggccg tggcagggaa catccctggc 660

cctgggtccg tgggtggaat agccccagcc atcagtctgt ctgctgctgc tggcatcggt 720

gtggatgacc tccggcgatt gtgcattctc aggatgagct ttgtgaaggg ctggggccca 780

gactacccca ggcagagcat caaggaaacc ccgtgctgga ttgagattca ccttcaccga 840

gctctgcagc tcttggatga agtcctgcac accatgccca ttgcggaccc acagccttta 900

gactgagatc tcacaccacg gacgccctaa ccatttccag gatggtggac taatgaaata 960

<210> 7

<211> 476

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (262)..(476)

<223> n can be any nucleotide

<400> 7
ttttttttnt tccacttcgt atagtgactc agttttattt acgctagtaa ctaggtagaa 60

agtatacatg tgtgtctgtg gtacagtcaa tgtgtcttaa ctcctccact tcaatctcta 120

caaagtcacc gccaagtgat caaggatggc aaacacaggg cttataacca aaaggtataa 180

aaaagtctgc agtcttgccc taagatacaa aaactgaatt ttaaacaatg tcaaaacata 240

catgatttta acaagtatat gnaaaagaat cacacatcaa atcaagtaca aaaatatcca 300

aaccacctgt tacaactgca ctgtttccat tatcctgcac agtatttaac ataaaaattt 360

agcagtttcc aaaaatattc attaattcac ttgaagttac tgccccntgc aaaacagtga 420

aacaccaggc aaaccaanct gcctttaatt nttttnnacc aaatcntcct cccnan 476

<210> 8

<211> 850

<212> DNA

<213> Mus musculus

<400> 8

gacagaaccg gttcgcaccg acagacggac agaggaccag acagccacta aggagcgctt 60

actgcccccc tccgggcccc tgccccgaac tccagcccca gcgcctgtta ctgccccaga 120

tacagcaaga tgcgcggtcc tggcagcgag acacgggcga gcactgtccc ccggtccccg 180

agccctggcc cctagcgccc agcgctgctg ccctgcatca gggagggccg cggagacccc 240

agcctcagtt ggcgcaggag ccctgcgggt ggggcctgcc cagcccagcc aggcgcgcca 300

gcccaccatg ctcctcctgt cgccgcgcag cgcgctggtc tccgtctatt gcccgcagat 360

ctttctcctt ctgtccacgg cagttactac attgtcatcc gtggtggccc tgggagccaa 420

catcatctgc aacaagattc ctggcctggc cccacggcag cgtgccatct gccagagccg 480

acccgatgcc atcattgtga tcggggaggg ggcgcagatg ggcatcgacg agtgccagca 540

ccagttccga ttcggccgct ggaactgctc cgccctgggc gagaagaccg tcttcgggca 600

agaactccga gtagggagtc gagaggctgc cttcacctat gccatcacgg cggcgggcgt 660

ggcgcatgct gtcaccgctg cctgcagcca gggcaatctg agcaattgtg gctgtgaccg 720

ggagaagcaa ggctactaca accaggcgga aggctggaag tgggggggct gctcagcgga 780

cgtccgctac ggcatcgact tttctcgtcg ctttgtggat gcccgtgaga tcaaaaagaa 840

cgccggatcc 850

<210> 9

<211> 475

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (446)..(446)

<223> n can be any nucleotide

<400> 9

agacactgtt gtattcagat tatttcttag tggctggctt ttgattctag acagagattc 60

ttaaagtcct tttaaaaaag tggatcagga atcctgttat gggccttgat tgttccagac 120

attagaagta aatatatttg atgaaggaaa tcttgaaaaa atactgacta gataaaaatt 180

gtaagccaag ctttctgact gaaaaatgct acctagccac agatcattgc tgttatttgg 240

ttcattgcat gagtgtgtat gtgtgtgtat atatgtatac acatatatat gtgtgtgtgt 300

gtgtatgtgt acacacacat atatgtgggt tttgggggggt atggataaga tggtgctatg 360

aaaataattt gtctcttgtt ttaattaatg aagcttctgt catgccaagt aatctttaag 420

ggagaatcag aacttttcat taaaantcat aagggaaaca gaatttgtac gggtg 475

<210> 10

<211> 1537

<212> DNA

<213> Mus musculus

<400> 10

agcggagttt cagtctgcgg acacgcgtgg agcccttgcc cgggcctccg tgggtctgag 60

gcgctgcgag ccctgggtaa ccacggcctc gagctgctgt cctcaccaag atcctccaat 120

tctgaaccaa gaacaaaaaa atgtttcagc ttcgtgcatt tcaaagaagg cattaactag 180

agcccagttt ggcggacaag ttcttcattc aaaagagagt cctgttagga tcactgtgtc 240

caaaaagaac acatttgttt tgggaggcat tgattgtact tatgaaaagt ttgaaaatac 300

tgatgttaac accattagtt ctctttgtgt tcctattaag aatcatagcc aatctattac 360

ttctgataat gatgtgacaa cagaaaggac tgcaaaagag gatattacag aaccaaatga 420

agagatgatg tccagaagaa ctattcttca agatcccata aagaatacat ctaaaattaa 480

acgttcaagt ccaagaccta atttaacact atctggccgg tctcaaagaa aatgtacaaa 540

gcttgaaact gttgtaaaag aagtaaaaaa atatcaggca gtccacctac aggaatggat 600

gattaaagtc atcaataata atactgctat atgtgtagaa ggaaagctgg tagatatgac 660

tgatgtttat tggcatagca atgtaattat agagcggatt aaacacaatg aacttaggac 720

cttatcaggc aacatttata tcttaaaagg attgatagac tcggtctcca tgaaagaagc 780

aggatatccc tgttatctca caagaaaatt tatgtttgga tttccccaca actggaagga 840

acacattgat aaatttctag aacaattaag ggctgaaaaa aagaacaaga ccagacagga 900

aacagcaaga gtccaagaaa aacaaaaatc aaaaaaaaaa gatgcagaag ataaagaaac 960

ttatgtcctc caaaaggcca gcatcacgta tgaccttaat gataatagct tagagagaac 1020

tgaagtaccc actgatccct tgaactcact ggaacagcct acctccggca aagaaagaag 1080

acacccgctt ctcagtcaga agagagctta tgttttaata acaccactta gaaacaaaaa 1140

gttgatagag caaagatgta tagactacag tctctctatt gaaggaatat cggacttttt 1200

caaagcaaag catcaagaag aaagtgactc agatatacat ggaactccaa gttctaccag 1260

taagtctcaa gagacctttg aacatagagt gggatttgaa ggcaatacca aggaggactg 1320

caatgaatgt gacataatca ctgccagaca tattcagata ccttgcccga aaagtaaaca 1380

aatgctcacc aatgatttta tgaaaaagaa caagttgccc tcaaaactgc agaaaactga 1440

aaatcaaata ggtgtatcac agtattgccg gtcctcatca catttgtcaa gtgaagagaa 1500

tgaagtagaa attaaaagta gaaccagagg atcccaa 1537

<210> 11

<211> 477

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (261)..(448)

<223> n can be any nucleotide

<400> 11

gagtaaactc tccttccgag cgcgggcgct ggacgccgcc aaaccgctgc ccatctaccg 60

cggcaaggac atgcctgatc tcaacgactg cgtctccatc aaccgggccg tgccccagat 120

gcccaccggg atggagaagg aggaggaatc ggaacatcac ctacagcgag ctatttcagc 180

gcagcaagta tttagagaaa aaaaagagag catggtcatt ccagttcctg aggcagagag 240

caacgtcaac tattacaatc ngcttgtaca aaggggagtt caaacagccc aagcagttca 300

tncatattca gccttttaac ctagacaacg agcaaccaga ttatgatatg gattcagaag 360

atgagacatt attaaataga cttaacagaa aaatggaaat taaacctttg caatttgaaa 420

ttatgattga cagacttgaa aaagccantt ctaccagctt gtacacttca agaagca 477

<210> 12

<211> 572

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (505)..(572)

<223> n can be any nucleotide

<400> 12
tctggttcta cttttaattt ctacttcatt ctcttcactt gacaaatgtg atgaggaccg 60

gcaatactgt gatacaccta tttgattttc agttttctgc agttttgagg gcaacttgtt 120

ctttttcata aaatcattgg tgagcatttg tttacttttc gggcaaggta tctgaatatg 180

tctggcagtg attatgtcac attcattgca gtcctccttg gtattgcctt caaatcccac 240

tctatgttca aaggtctctt gagacttact ggtagaactt ggagttccat gtatatctga 300

gtcactttct tcttgatgct ttgctttgaa aaatccgata ttccttcaat agagagactg 360

tagtctatac atctttgctc tatcaacttt ttgtttctaa gtggtgttat taaaacataa 420

gctctcttct gactgagaag cgggtgtctt ctttctttgc cggaggtagc tgttccagtg 480

attcaaggga tcaatgggta ctcantctct ctaanctata tcataaggtc tacttaatgc 540

tggcttttgg aagantaatt ctttatctct gn 572

<210> 13

<211> 579

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (315)..(579)

<223> n can be any nucleotide

<400> 13
ctgctgtgag gaatgctggg attgttgttt ctgatgaagc tgcgcaagtt gctgcctttg 60

catttgaact agctgctgtt gatgtgtctg aaactgctct tctgtgatgc cccctgttac 120

tgatatgccg ttcttgctgg tgttcaataa agctacggat gctgcagaaa ctcttttact 180

gctcacagtc tgccctggtt ttcttgaggt acattcttca ctatcaatgt cctgtacatt 240

tagtagcctt ggctggaaac actgtagtcg acatgatctg atattgctta atatttcaga 300

aagagacagt ctatnttcac aaggtttact gggaagcatt ggtccgagag aaattagaag 360

aaaatctata gtttgggaag acttgaaaac ccgttcagca tctcanggtc tatctgtttc 420

aggacggggt catgttctgt ggatatccgt ccattatgaa cctgccactc tgccattccc 480

ctccttgcaa tcctatacat cttcttggac tgtaatttcg taaganatgc ttatactcaa 540

cttatccaat ctgccactct gaatttcnac atatggtan 579

<210> 14

<211> 403

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (400)..(400)

<223> n can be any nucleotide

<400> 14

ggaaagacaa agatgcagga tatagtactt ggaacaggct ttttaagtat tcatcctaaa 60

aatgaggctg agcacataga aaatggggct aagtgtccga atttggagtc cataaataag 120

gtaaatggtc tttgtgagga cactgcaccg tctcctggta gggttgaacc acagaaggcc 180

agttcttctg ctgacgtggg catttctaaa agcacggaag atctatctcc tcagagaagt 240

ggtccaactg gagctgttgt gaaatctcat agtataacta acatggagac tggaggctta 300

aaaatctatg acattcttgg tgatgatggc cctcagccgc caagttgcag cagttaaaat 360

cgcatctgct gtggatgggg aagaacatat cagaagcaan tct 403

<210> 15

<211> 555

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (382)..(555)

<223> n can be any nucleotide

<400> 15
ttttttttttt ttttttttttt gacagttttg aaattatatt tattaatgct ttattatacg 60

tattgtattc tatttgagcc aagggaaagg agaaccccac tcaagtgaga taacaaactt 120

gctgtctttt acaaaattta atcagaactg acaatgttat ggttagttct taattcctga 180

gaatttgaac atcattaagt tttctgtgaa tttacaacaa aacactcatg ttaatattta 240

aattacaata tttctgaaaa aatattgtta gcaaaagaaa accacatcca acgtatacag 300

taacccaggt gtgaacatac tgaagccctg ttgctcagca gtttaatacc atttaaatat 360

ttctctcatc agagatttat tncaaataca tgaacttatt ataatttacc agaatacagt 420

gacatnattt ttnttttttt ttaaanaatt attatctatt atatgtaagt acccggtanc 480

tgtcttcaac acccagaana aggggtccaa tcttttacag aaggtgtgac cncatgtggn 540

gncgggaatt nannn 555

<210> 16

<211> 562

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (430)..(561)

<223> n can be any nucleotide

<400> 16
ctacgaaatt gtacctgagt gacataaacc ggtaaaggtg tgttacttcg ctttttcatg 60

ttttttttttt ctttttgttc tttggtctga taagaaaatg gacagttgtg gaaagtcagg 120

taatacagat cagtttccag ttcagaaccc taaatcacac ctacgtgagt gaggctgctg 180

cactgctttc cttgggttct tcggccggcc agacagcctt tctgctttgt aagtgacttc 240

attatagcca tcagctaatc actccctcag catacactgg catctccaga ttacctgacg 300

gcagacatac ttgctctggc ttcaattaac atgctgtcaa gcatccctct cgacattcac 360

atggcaacac aaaaccatga atttctcttc atacaaccag gaatacacac tcataaaggg 420

aaagcgttan acctgatttt tattaaatat tatttccttc cctttccatg ccaagttcac 480

gttaacatct ttagaatact aaaacggaaa cccnccactt angaaacaac tgggaattgg 540

acatccacag gtacatcaca na 562

<210> 17

<211> 347

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (6)..(339)

<223> n can be any nucleotide

<400> 17
agcggnagtt tcagtctgcg ngacacgcgt ggnagccctt gcccgggcct ccgtgggtct 60

gaggcgctgc gagccctggg taaccacggc ctcgagctgc tgtcctcacc aagatcctcc 120

aattctgaac caagaacaaa aaaatgtttc agcttcgtgc atttcaaaga aggcattaac 180

tagagcccag tttggcggac aagttcttca ttcaaaagag agtcctgtta ggatcactgt 240

gtccaaaaag aacacatttg ttttgggagg cattgattgt acttattgaa aagttttgaa 300

aatactgatg tttaacacca ttaagttctc tttgtgttnc ctaatta 347

<210> 18

<211> 569

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (156)..(565)

<223> n can be any nucleotide

<400> 18
cctcaatgtg tcgtagtact tgttcccgcc agtcatgagg aaccttgctt tttcctggag 60

gatctaacag agaatgttca gacccgaccc ttgtatttgg tctttttgaa ggactagtcc 120

gtgagtaatt gaaatcacta actgacatag ttctcncngn tatttcatta atagagggac 180

gggcactctg aggcctggat gtatttgggc catcgatgct gtacgctcgt gcagaaagag 240

gtctctgtga tcctgacatg actggagttc ttcccattga atgtaactct ctgtacgata 300

agtaatctcc ttcagtacgc cttgtggggt caccgagatt tacagaagcc gttgaagaca 360

cgctactctg tctctgaata gtaatccgaa tgactgctgg cactagtcgg tcattcnggg 420

agatacccac atttctccat gcctggctgg ggcaatctct gttgtaantg gtatccaata 480

ttggtctaca ttgttatggt taaaaaaatc tgtttggaga atgctttgca tactgtnaat 540

ttctgcctcn caaatnttgg aaggnccga 569

<210> 19

<211> 338

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (42)..(321)

<223> n can be any nucleotide

<400> 19

gagacattct gaagggcagg aatgaggcgc tctccccagg gnagatggtg gtgaggctgc 60

tgaggggaa ggtgatatct ttccatcttc tcattacctg ccaatcacca aagaaggccc 120

tcgagacatt ctggatggca gaagtggcat ttctgtggct aacttcgacc cgggcacctt 180

tagcctgatg cgatgtgact tctgtggggc tggttttgat actcgggctg gcctctccag 240

tcatgcccgg gcccaccttc gtgactttgg catcaccaac ttggggaact ccaccatctc 300

accatcaaca tccttgcaaa naacttgctg ggccacct 338

<210> 20

<211> 483

<212> DNA

<213> Mus musculus

<220>

<221> misc_feature

<222> (318)..(481)

<223> n can be any nucleotide

<400> 20

ggagggtgta gcaaggcctg agaacatctt ccgggccgtg ggaggaggag aagcagttgg 60

tgagtggccc agaggactgc ctggtggtgg tggcaacttc ttggtcaaag gtgagatgtg 120

aagatcagag ggacttcggg cttctagtga gctgccagga cctccagtgc tcagcacctt 180

ggccagggct tttgggctag gacctggtgg gtggaggtgt ccccctggcc tggattgggt 240

ccgtctcttc aggatctccc gaagtgtgtc gatgggtgag ccgttcacat accactcagt 300

tacacccatc tggcgcangt gggaacgtgc atggctanac aagccctttc tgttctcaaa 360

gaatcaccac anaactcaca gcggatatct cttgttggct ctgggcctga ancatctccg 420

tanattggcc canggtcctc accccantta ngcgggaaag gcatggtnaa aagtaacctt 480

ngc 483

<210> 21

<211> 51

<212> PRT

<213> SBD mutant

<400> 21

Gln His Leu Gly Val Gly Met Glu Ala Pro Leu Leu Gly Phe Pro Thr
1 5 10 15

Met Asn Ser Asn Leu Ser Glu Val Gln Lys Val Leu Gln Ile Val Asp
20 25 30

Asn Thr Val Ser Arg Gln Lys Met Asp Cys Lys Thr Glu Asp Ile Ser
35 40 45

Lys Leu Lys
50

<210> 22

<211> 23

<212> DNA

<213> F3th12F (forward primer)

<400> 22
cggcggcaga tacgcctcct gca 23

<210> 23

<211> 29

<212> DNA

<213> th12 mouse1 (reverse primer)

<400> 23
caggagcagt tgtgggtaga gccttcatc 29

<210> 24

<211> 31

<212> DNA

<213> th12

<400> 24
ctggactgag ctggacctgt ctctccagta c 31

<210> 25

<211> 30

<212> DNA

<213> th12

<400> 25
cacaagggag tatttcttgc gccacgaagg 30

<210> 26

<211> 20

<212> DNA

<213> th12

<400> 26
gccatggtgt gaggagaagc 20

<210> 27

<211> 19

<212> DNA

<213> Brachyury Binding Site

<400> 27
tgacacctag gtgtgaatt 19